

# Online Research @ Cardiff

This is an Open Access document downloaded from ORCA, Cardiff University's institutional repository: <https://orca.cardiff.ac.uk/id/eprint/100782/>

This is the author's version of a work that was submitted to / accepted for publication.

Citation for final published version:

Payne, Lukas, Langbein, Wolfgang Werner ORCID: <https://orcid.org/0000-0001-9786-1023> and Borri, Paola ORCID: <https://orcid.org/0000-0002-7873-3314> 2017. Erratum: Polarization-resolved extinction and scattering cross-section of individual gold nanoparticles measured by wide-field microscopy on a large ensemble [Appl. Phys. Lett. 102, 131107 (2013)]. Applied Physics Letters , -. file

Publishers page:

Please note:

Changes made as a result of publishing processes such as copy-editing, formatting and page numbers may not be reflected in this version. For the definitive version of this publication, please refer to the published source. You are advised to consult the publisher's version if you wish to cite this paper.

This version is being made available in accordance with publisher policies.  
See

<http://orca.cf.ac.uk/policies.html> for usage policies. Copyright and moral rights for publications made available in ORCA are retained by the copyright holders.



# Erratum: Polarization-resolved extinction and scattering cross-section of individual gold nanoparticles measured by wide-field microscopy on a large ensemble [Appl. Phys. Lett. 102, 131107 (2013)]

Lukas M Payne,<sup>1</sup> Wolfgang Langbein,<sup>2</sup> and Paola Borri<sup>1, a)</sup>

<sup>1)</sup>*School of Biosciences, Cardiff University, Cardiff CF24 3AA, United Kingdom*

<sup>2)</sup>*School of Physics and Astronomy, Cardiff University, the Parade, Cardiff CF24 3AA, United Kingdom*

(Dated: 18 May 2017)

The numerical values of the noise calculated using equation (1) should read  $\hat{\sigma}_{\text{noise}} = 166 \text{ nm}^2$  instead of  $\hat{\sigma}_{\text{noise}} = 589 \text{ nm}^2$  for the  $M = 60$  estimate, and  $\hat{\sigma}_{\text{noise}} = 6 \text{ nm}^2$  instead of  $\hat{\sigma}_{\text{noise}} = 43 \text{ nm}^2$  for the  $M = 150$  estimate. Furthermore, shot noise in the data is a factor of  $\sqrt{2}$  larger since the difference between two images  $I_f$  and  $I_d$  is used, and an additional factor  $\sqrt{4/3}$  larger due to the noise in the background  $\Delta_b$ . The equation (1) should thus read

$$\hat{\sigma}_{\text{noise}} = \frac{\lambda d_{\text{px}}}{MNA} \sqrt{\frac{6\pi}{N_a N_{\text{fw}} \nu}} \quad (1)$$

yielding  $\hat{\sigma}_{\text{noise}} = 271 \text{ nm}^2$  for the green channel, for which we measured  $\hat{\sigma}_{\text{noise}} = 590 \text{ nm}^2$ . The measured noise is therefore close to shot noise, but still limited by background fluctuations.

---

<sup>a)</sup>Electronic address: [BorriP@cardiff.ac.uk](mailto:BorriP@cardiff.ac.uk)